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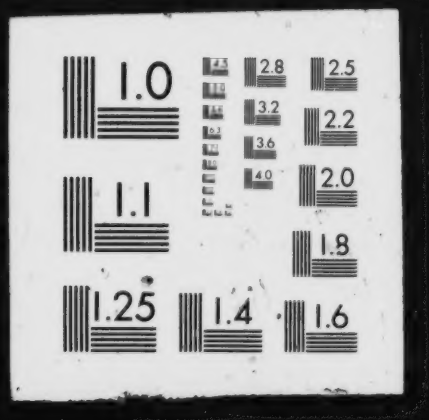

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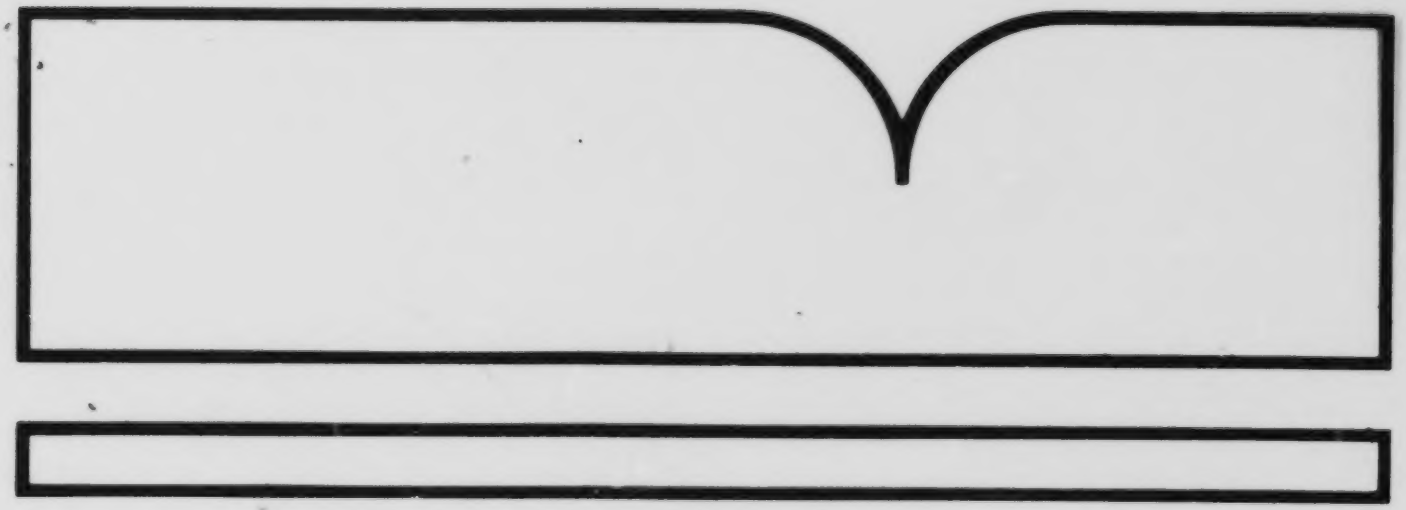

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A Preliminary Report to Congress on Training for Operators of Municipal Wastewater Treatment Plants

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A PRELIMINARY REPORT TO CONGRESS

ON

TRAINING FOR OPERATORS OF MUNICIPAL WASTEWATER TREATMENT PLANTS

By

ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF WATER

WASHINGTON, D.C.

March 1, 1984

A PRELIMINARY REPORT TO CONGRESS ON TRAINING FOR OPERATORS OF MUNICIPAL WASTEWATER TREATMENT PLANTS

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A PRELIMINARY REPORT TO CONGRESS ON TRAINING
FOR OPERATORS OF MUNICIPAL WASTEWATER TREATMENT FACILITIES

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EXECUTIVE SUMMARY

This is the preliminary report of the Environmental Protection Agency (EPA) to the United States Congress on the status of State training programs for operators of municipal wastewater treatment facilities and on the development of a multiyear action plan to achieve State self-sufficiency in operator training. The report responds to the June 23, 1983, directive of the House-Senate Committee of Conference on Appropriations for HUD and Independent Agencies in Report No. 98-264 requesting such information.

Background

EPA and the States agree that effective operator training is an important factor in a treatment facility's ability to meet its effluent requirements under the 1972 Clean Water Act. In carrying out various mandates for operator training under the 1972 Act and other legislation over the past 17 years, EPA's strategy and that of its predecessor agencies has aimed to build a comprehensive, self-sufficient State and local training base. Federal programs since the 1965 Water Quality Act have progressed from training operators directly to construction of State training centers and development of State capability. Twenty-seven States, territories, and an interstate agency operate dedicated training centers, 24 of them funded under section 109(b) of the Clean Water Act. Eight additional States and Puerto Rico have expressed interest in developing such centers.

The Federal goal through the years has been to protect the Federal investment in municipal treatment facilities by developing a national base of skilled water pollution control personnel and technical information materials. The Instructional Resources Center at Ohio State University serves as a repository for training and instructional materials developed by EPA, States, and the private sector and operates a computerized national information clearinghouse and retrieval system originally established under an EPA grant. The Center expects to become self-supporting this year.

Several national training and other associations that received EPA financial and institutional support continue to provide comprehensive coordination and assistance to State and local governments. An estimated 24 State operator associations sponsor strong and effective operator training activities. Many of these associations came into existence with support from the Water Pollution Control Federation. The Federation is promoting a national operator association that will coordinate information and encourage operator training.

Every State and many local governments also rely heavily on private-sector training and technical assistance.

Status of State Grant Projects

Since 1982 Congress has added $9,353,000 to EPA's budget to support operator training. Congress added $4,103,000 in 1982 and $2,625,000 each for fiscal years 1983 and 1984.

As directed by Congress, the bulk of the 1982 and 1983 add-on training funds are at work in the States assisting compliance-oriented training programs for operators of small treatment plants. Training and technical assistance is provided onsite and over-the-shoulder by experienced trainers from State training centers, other State agencies, or a national training association. These trainers use newly developed EPA computer-diagnostic programs to identify each plant's problems and training and technical assistance needs.

Using these add-on funds, States will conduct nearly 1,200 facility diagnostic inspections, provide onsite technical assistance and training at nearly 775 small facilities, and develop 10 Statewide financial management guidance and assistance programs. Although these projects will not complete work until FY 1985, performance and compliance have improved at 67 facilities. In addition, State efforts have resulted in improved local decisionmaker involvement in plant operations and maintenance and financial management; improved process control methods and laboratory and recordkeeping practices; introduction of preventive maintenance programs; reduced sludge handling costs; improved infiltration/inflow management; increased repair of equipment; and identification of operator certification and continuing education needs.

A major objective and accomplishment in award of FY 1982 and FY 1983 funds was to obtain maximum State participation in this program. By the end of 1983, only two States, certain territories, and the District of Columbia were not participating in this training effort. Award of FY 1984 funds will be more selective. These funds will go to States that have demonstrated a commitment to this effort as reflected in funds expenditures and compliance improvement.

National Survey and Evaluation

To help evaluate State and local training capability and to identify the essential elements and costs of an effective State operator-training program, the EPA Office of Water also funded studies by national organizations experienced in water pollution control and operator training. These include the National Environmental Training Association (NETA), the National Demonstration Water Project (NDWP), the American Clean Water Association (ACWA), and the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA). Much of the material in this report is based on preliminary findings of these organizations. Most State onsite assistance programs have been effectively underway less than a year and the evaluations by the national organizations are incomplete.

Characteristics of State Operator Training Program.

Although incomplete, the data in this report appear to represent a good cross-section of State programs.

Annual State training budgets generally range from $100,000 to $400,000. Although a number of States obtain significant local funding from course tuition, fees and certification charges, the majority of funds come from State appropriations and Federal grants under Clean Water Act sections 106, 205(g), and 104(g)(1). States average about three full-time trainers, but there are significant numbers of part-time trainers. In addition, it appears that a significant amount of additional training and technical assistance is provided by other State personnel in conjunction with management of construction grants and compliance programs.

Operator training programs are conducted mainly through State environmental agencies and State training centers. State training centers are generally associated with junior colleges or vocational education institutions. These centers serve as Statewide training resource centers and provide primarily entry-level and upgrade training. As State training programs have matured, program objectives and resources have expanded to emphasize continuing education and technical assistance as well as operator certification. Nearly all States (44) have mandatory operator certification programs. The majority of operators are certified and receive continuing education training annually.

States report redirection of their training programs toward improving compliance. These results-oriented approaches are fully consistent with EPA and congressional objectives. Data also show improved integration of operator training, operations and maintenance, and compliance programs within State organizations. Although a number of States appear to be moving toward improved programs and increased funding, relatively few States maintain comprehensive, integrated, and self-sufficient programs.

Tentative Conclusions

Federal, State, and Local Roles and Responsibilities

As the Agency, the States, and local governments work toward self-sufficient operator training and improved compliance, it is essential to articulate the basic roles and responsibilities each sector will be expected to fulfill to achieve these goals and objectives.

The overall responsibility for operator training and plant compliance rests with local and State governments. This is in keeping with the Clean Water Act mandate and EPA's implementing policies. Local governments are expected to see that their plants comply with their effluent-discharge permits, maintain effective user-charge systems and operations and maintenance programs, and seek training for their operators where needed. States are expected to develop, administer, and finance their own training programs, to help especially small municipalities comply with discharge requirements, and to take appropriate enforcement actions where necessary. The Federal role now and in the future is one of oversight to assure that needed programs are developed and implemented to improve compliance at Federally funded facilities.

Model State Program

As requested by Congress, EPA awarded grants to NETA and selected States to define the essential elements of successful State operator training programs and the costs to implement them. State programs viewed as possessing essential elements for financial and programmatic self-sufficiency were selected for intensive evaluation.

Although the data have not been fully evaluated, certain basic components of an effective State program are emerging. The essential elements include: a comprehensive statement of State goals and objectives; a planning and evaluation program, including an annual plan that sets priorities and budget levels and provides a basis to evaluate training effectiveness in terms of improved compliance; an adequate budget to meet identified training and technical assistance needs based on local fees and State-Federal funds pending full self-sufficiency; an adequate number of trained staff; adequate State travel budgets to assure onsite technical assistance, particularly for small isolated facilities; mandatory certification testing of both theory and operations knowledges; and a balanced mix of entry-level training, continuing education and technical assistance. We do not at this time propose that these elements constitute the model that all States should develop. A model program description that also addresses qualitative factors and staffing and budget needs requires further analysis and coordination with other EPA program offices and State managers.

Elements of National Plan

As with the model State program, the elements of a national coordinated action plan to achieve Federal, State, and local goals for effective operator training and municipal compliance are incomplete and require further discussion with each level of government. EPA will begin working shortly with Federal and State officials and others responsible for operator training to discuss development of realistic, short-term and long-term policies, programs, and activities to achieve the goals and objectives.

Although the complete national action plan does not yet exist, some basic components are already in place. At the Federal level, EPA has taken several actions that set a clear national direction. These include the National Municipal Policy; the Financial Capability Policy; and revised construction grant, State delegation, and secondary treatment regulations. It has also implemented major program management reforms and issued financial and technical information and guidance for State and local governments. In the immediate future, the agency has scheduled a national training conference in May at Atlanta, Georgia, to bring together State training officials and EPA staff to discuss development of effective, self-sufficient operator training programs and to share information on onsite training and technical assistance programs.

At the State level, efforts to provide operator training and technical assistance appear to be increasing. States appear to recognize that their operator training programs must become self-sufficient and must be oriented toward improved compliance.

For the future, increased State, local, and private sector emphasis will be needed at small facilities. These plants account for the majority of compliance and performance problems. In the past they have received little technical assistance and operator training and a low priority for enforcement. An integrated effort to solve problems at these small facilities should help improve overall municipal facilities operation and maintenance and national compliance rates in Federally funded wastewater treatment facilities.

Final Report on Operator Training

EPA will continue to work with State and local officials and other representatives of national training organizations to obtain and evaluate data on State operator training capability. This information will help provide the base on which to formulate a realistic, workable model State operator training program and a national action plan to achieve State self-sufficiency in operator training. The Agency will submit final recommendations in another report to Congress in fiscal year 1985.

A PRELIMINARY REPORT TO CONGRESS
ON
TRAINING FOR OPERATORS
OF MUNICIPAL WASTEWATER TREATMENT PLANTS

I. INTRODUCTION

A. Purpose

This is the preliminary report of the Environmental Protection Agency (EPA) to the United States Congress on the status of State municipal wastewater treatment facility operator training programs and on the development of a multiyear action plan to achieve State self-sufficiency in operator training and improved municipal facilities compliance. The report is required by the June 23, 1983, directive of the House and Senate Committee of Conference on Appropriations for HUD and Independent Agencies in Report Number 98-264.

B. Background

1. Federal, State, and Local Roles

EPA and the States agree that effective operator training is important to help ensure that municipal wastewater treatment plants, many of which have been constructed with Federal funds, meet effluent permit requirements and are operated and maintained effectively. In keeping with the Clean Water Act mandate and the agency's implementing policies to delegate management of the construction grants program to the States, responsibility for operator training and plant compliance rests with State and local governments. States are expected to develop, administer, and finance their own training programs, to help municipalities comply with requirements, and to take appropriate enforcement actions. Local governments are expected to see that their plants comply with their effluent-discharge permits, maintain effective user-charge systems and operations and maintenance programs, and seek training for their operators where needed. The Federal role now and in the future is to assure that needed programs to improve overall municipal wastewater treatment facilities compliance are implemented nationally.

2. Large Plant-Small Plant Compliance

A top priority of the EPA is to assure that municipal wastewater treatment facilities built with Federal tax dollars perform as designed to meet their effluent discharge permits. Since 1972 the Federal Government has spent almost $37 billion to help communities pay for municipal wastewater treatment plants that meet the effluent requirements of the Federal Clean Water Act (P.L. 92-500), as amended. EPA data show that 87 percent of the plants funded since 1972 that treat more than 1 million gallons of wastewater a day (mgd) comply with their permits and that 77 percent of all plants funded since 1972 are in compliance. In early April 1984, EPA expects to have specific compliance figures for municipal plants that treat less than 1 mgd. Meantime, these small plants are known to account for the majority of plant performance and compliance problems. These plants represent about 90 percent of the total number of facilities built since 1972 with construction grants funds though they account for only 10 percent of all municipal wastewater flow.

3. Operator Training and Small-Plant Compliance

A key factor in noncompliance at small plants is that the operators often lack the necessary technical knowledge and mechancial skills needed to operate a mechanical treatment plant, often a sophisticated activated sludge process plant. Typically these plants are operated by one person who is responsible for all aspects of plant operations and maintenance and who also often has to combine operation of the plant with other municipal duties. This has meant insufficient attention to plant operation and maintenance and little or no time for offsite classroom instruction or "hands-on" training at a waste water treatment training facility. These small plants, often located in isolated communities, have not received much State attention or assistance and have not been able to afford private sector help.

4. Results-Oriented Operator Training

Federal and State experience reinforces the conviction that effective operator training is an important element in the treatment plant's ability to meet its effluent permit. Experience also teaches that improved plant performance and permit compliance are the ultimate gauges of training success. Head counts of operators trained, upgraded, or certified, important as these factors are, represent only intermediate, process measures. Besides traditional classroom and textbook instruction, training programs must deliver personal on-the-job assistance to the operator at the treatment plant where appropriate and must be oriented to improve plant performance and compliance. Programs that can demonstrate that training produces cost-effective solutions to plant noncompliance can expect to draw support from State and local governments as Federal training funds phase out.

5. Other Factors Affecting Compliance

Though the operator remains an essential component, it is important to remember that other factors also contribute significantly to poor plant performance and noncompliance by small treatment plants. Problems with facility design, selection of treatment technologies, infiltration and inflow, inadequate financial management by the local government, and lack of effective enforcement to spur corrective action at problem plants present equally serious and complex obstacles to compliance. This report focuses on operator training but also interrelates other Federal, State, and local efforts needed to frame integrated approaches that improve performance and compliance at municipal wastewater treatment plants.

C. Congressional Add-on Funds

The appropriation of additional Congressional add-on funds by P.L. 98-45 July 12, 1983, brought to $9.353 million the total amount of operator training money added by Congress to EPA appropriations for fiscal years 1982, 1983, and 1984.

1. Grants to States

As directed by Congress, the bulk of the 1982 and 1983 add-on training funds are at work in the States assisting compliance-oriented training programs for operators of treatment plants with capacities of less than 5 million gallons a day (mgd). These plants serve fewer than 50,000 people. Most of the plants have capacities of less than 1 mgd and serve fewer than 10,000 people. Training and technical assistance is provided onsite and over-the-shoulder by experienced trainers selected by State training centers, other responsible State agencies, or a national training association. Trainers use newly developed EPA computer-diagnostic programs to identify a plant's design, operational, or financial management problems that are causing poor plant performance and noncompliance and to target needed training and technical assistance activities.

2. National Survey and Evaluation

To help evaluate State and local training capability and to identify essential elements of a model State operator training program, the EPA Office of Water also funded studies by national associations knowledgeable and experienced in water pollution control and operator training and by selected States. The national associations include the National Environmental Training Association (NETA), the National Demonstration Water Project (NDWP), the American Clean Water Association (ACWA), and the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA).

3. Preliminary Report

The material in this report is based on preliminary findings of these organizations and of State agencies. Most State onsite assistance programs have been effectively underway less than a year and the national organizations' evaluations are incomplete. Therefore, this report should be considered as a preliminary national report on operator training. The EPA will submit a final report and proposed action plan in early fiscal year 1985.

II. HISTORY AND STATUS OF FEDERAL OPERATOR TRAINING PROGRAMS

A. Federal Program Summary and Legislative Base

The Federal goal through the years has been to protect the taxpayer investment by developing a national base of skilled water pollution control personnel and technical information materials to assure that plants built with Federal funds are operated and maintained to comply with their effluent discharge permits. The Federal operator training effort has progressed through various stages. From 1967 to 1971, it concentrated on direct training of operators. From 1971 to 1977, it shifted to greater reliance on the States by training trainers and building State training centers. Last, from 1977 through 1981, it developed extensive curricula and training materials for State use. By 1981, as States moved toward self-sufficient programs, EPA began to phase out its role for operator training.

In carrying out its legislative mandates for operator training, EPA's strategy has aimed at building State training capability and working toward a comprehensive, self-sufficient State-local training base. With a commitment to municipal compliance and to development of self-sufficiency, States and local governments should be in a position to provide needed training by continuing to build on the substantial training base the Federal Government, States, educational institutions, and professional organizations have created over the past 17 years. During this time, the agency estimates that the Federal Government has invested a total of approximately $75 million in operator training-related activities. A wealth of water pollution control curricula and training materials developed under Federal grant programs are being used throughout the country by States, numerous universities, community colleges, technical and vocational schools, and training and water pollution control associations.

1. 1966 Clean Water Restoration Act

The earliest Federal planning to focus on operator training began in 1967 as a result of the 1966 Clean Water Restoration Act (P.L. 89-753) and the 1965 Federal Water Quality Act (P.L. 89-234). The 1966 Act called for a study and report to Congress by July 1, 1967, on manpower and training needs to implement the expanding Federal water pollution control programs. The 1965 Act created the Federal Water Pollution Control Administration (FWPCA) within the Department of Health, Education and Welfare. FWPCA established the Office of Manpower and Training in 1967 which used existing Federal authorities and funding, primarily the Manpower Development and Training Act of 1962 (P.L. 87-415) (MDTA), to develop and administer training programs for entry-level operators. Training consisted of classroom instruction and on-the-job training and became known as coupled OJT. Most classroom training took place at vocational and technical schools and community colleges. Before this, most entry-level and upgrade operator training consisted of in-house on-the-job training for operators at large plants and was conducted by existing plant operating staff. Other training consisted of short-course activities sponsored by operator associations, professional organizations, and State agencies.

EPA, which came into existence in December 1970, further developed MDTA operator training programs for entry-level and upgrade training of lower-level operators. The Agency administered the programs under interagency agreements with the Department of Labor; the Department of Health, Education and Welfare; and the Department of Defense. Training was subcontracted to State and local governments, special wastewater treatment districts, vocational schools, community colleges, and universities. The training continued to combine classroom instruction with on-the-job assistance. The MDTA programs included:

o Coupled on-the-job training. Entry-level and upgrade operator training for unemployed and underemployed persons in wastewater treatment plants through combined classroom and on-the-job training.

o Public Service Careers. Entry-level and upgrade training for disadvantaged persons newly or previously employed in wastewater treatment plants under a program tailored to channel funds from Federal to State and local agencies.

o Institutional Training. Entry-level operator training at technical or vocational schools and community colleges. The typical program included 440 hours of classroom instruction and 440 hours of hands-on training at a treatment plant.

o Transition Training. Entry-level operator training for military personnel leaving the service. Provided basic classroom and on-the-job training and help in finding employment in water pollution control facilities.

o WIN (Work Incentive) Program. Remedial education and skill training for adult welfare recipients of Aid to Families with Dependent Children. Objective was to place trainees in public or quasi-public agencies.

2. 1970 Water Quality Improvement Act

To provide a more comprehensive approach to operator training, the 1970 Water Quality Improvement Act (P.L. 91-224) established EPA's basic operator training program and for the first time authorized EPA financial support for operator training. Section 5(g)(1) of the Act authorized EPA to develop a pilot program "in cooperation with State and interstate agencies, municipalities, educational institutions, and other organizations and individuals of manpower development and training and retraining of persons in, or entering into, the field of operation and maintenance of treatment works and related activities." Training under the pilot program included advanced instructor training, advanced treatment training, and grants for special State priorities. State projects included management training for first-line supervisors, advanced treatment training, preventive maintenance, improved general skills for higher level operators and technicians, information and orientation seminars for local officials and policy decisionmakers, and correspondence study programs for plant personnel in rural and hard-to-reach areas.

Under other sections of this legislation EPA continued its previously authorized direct technical training in water pollution control at EPA facilities for key State, local, and Federal officials and private sector personnel responsible for water pollution control and training. It also funded academic and professional education for undergraduate and graduate-level programs in water pollution control and provided technology-transfer training to practicing professionals, public decisionmakers, conservation groups and the like. These and other training programs are summarized in Attachment A.

3. 1972 Amendments to Federal Water Pollution Control Act

Federal support grew with the landmark 1972 Federal Water Pollution Control Act Amendments (P.L. 92-500). The Act authorized continued financial support for pilot programs in manpower development and training for operation and maintenance personnel. Section 5(g)(1) of the 1970 Act became section 104(g)(1) in the 1972 Act and programs developed under this section became known as 104(g)(1) operator training programs. An additional financial thrust in Federal training support came with the Act's section 109(b). This section authorized each State to use $250,000 of its annual Federal construction grant allotment to build a State operator training facility with 100 percent Federal grant funding. Attachment B lists State training centers built under section 109(b).

4. 1977 Amendments to Federal Water Pollution Control Act

The 1977 amendments (P.L. 95-217) to the 1972 Act increased Federal support grants for 109(b) State training centers to $500,000 and allowed States to use Federal grant money for other training costs besides construction. Grant money could now pay for mobile training units, classroom rentals, special instructors, and materials. There have been no training-related changes in the Federal legislation since 1977.

5. National Municipal Policy

EPA's National Municipal Policy sets a clear direction for achieving improved municipal facilities compliance. Operator training has an integral role in its implementation since training can improve plant performance and, through effective operations and maintenance, minimize the need for capital investments. The policy requires that all publicly owned treatment works meet statutory compliance requirements whether or not they receive Federal funds. EPA's goal is to obtain compliance by these facilities as soon as possible, and not later than July 1, 1988, except in extraordinary circumstances. Already constructed publicly owned treatment works that are not in compliance must develop a plan and schedule for achieving compliance. Municipalities that require construction must also develop a plan that documents treatment needs, costs, and financing approach, and a schedule for achieving compliance as soon as possible.

B. Federal Program Accomplishments

Over the past 17 years, EPA and predecessor agencies have invested approximately $75 million in operator training-related programs, including specific training programs and other State grants support. Over 20,000 operators and State trainers have been trained. A wealth of water pollution control curricula and training materials have been developed and are being used by States, numerous universities, community colleges, technical and vocational schools, and training and water pollution control associations. Funding levels for operator training from 1969 through FY 1983 are shown in Attachment G.

Of the total Federal funds, $15.6 million went to programs funded under the 1962 Manpower Development and Training Act (P.L. 87-415) which funded entry level and upgrade training. Approximately $27 million went to programs funded under section 5 of the Water Quality Improvement Act of 1970 (P.L. 91-224) and section 104(g)(1) of the 1972 Water Pollution Control Act Amendments (P.L. 92-500) which authorize operator training pilot programs; and $10 million went to fund State training centers under section 109(b) of the 1972 Act and 1977 Amendments (P.L. 95-217). Significant amounts of construction grant funds have been used to provide facility startup assistance to communities and operators and to develop operations and maintenance manuals. In addition, the 1981 Amendments (P.L. 97-117) provide expanded statutory authority for communities to include operator training under first-year startup assistance if necessary. States also have continued to fund significant operator training activities under Clean Water Act section 106 State program grants and section 205(g) construction management assistance grants.

The Instructional Resources Center (IRC) at Ohio State University in Columbus, Ohio, under an EPA grant, operates a national information clearinghouse and serves as a repository for training and instructional materials developed by EPA, States, and the private sector. IRC houses the Instructional Resources Information System (IRIS), a national computer information and retrieval system that lists thousands of available instructional resources. IRC also publishes a quarterly newsletter; sponsors conferences, workshops, and seminars; and operates a lending library of audiovisual materials. The Center handles over 4,000 requests each month primarily from plant operators and supervisors. Over the past quarter, IRC reviewed 364 training materials and accepted 253 into IRIS. The Center mails out 20,000 newsletters each month and receives approximately 200 requests for information daily. Over 1,500 slides and 20 videocassettes are duplicated for loan each month. The Center expects to be self supporting by the summer of 1984.

More information on the history and development of the Federal program is contained in a report issued by EPA's Office of Water in 1983 entitled "Operator Training Programs."

C. Elements of National Training Base

1. State Training Facilities

Twenty-six States and territories and one interstate agency now operate dedicated training centers, 24 of which were funded under section 109(b) of the Clean Water Act. Eight other States and Puerto Rico are considering developing such centers. Attachment B lists existing State training facilities. Attachment C lists States that are considering building such facilities and States that have developed training centers without Federal 109(b) funds.

2. National Associations

Several national associations that received startup or continuing financial and institutional support from EPA continue to provide a comprehensive coordination and assistance capability to State and local governments. These associations include the Joint Training Coordination Committee (JTCC), the National Environmental Training Association (NETA), the National Demonstration Water Project (NDWP), the American Clean Water Association (ACWA), and the Association of Boards of Certification for Operations Personnel in Water and Wastewater Utilities (ABC). The Association of State and Interstate Water Pollution Control Administrators (ASIWPCA) provides an important coordination function across all State water pollution control programs.

3. Operator Associations

An estimated 24 State operator associations sponsor some of the strongest and most effective operator training activities. Some work closely with State agencies to conduct and coordinate training courses and Statewide conferences. Many of the these associations were established with strong support from the Water Pollution Control Federation. The Federation is promoting a national operator association that will coordinate information and encourage operator training. In July the Federation will publish the first issue of a monthly magazine on plant operations that will be written for and directed to plant operators.

4. Private Sector

Every State and many local governments rely heavily on private sector training and technical assistance. In several cities private contractors are responsible for overall facility operations and maintenance and operator training. Contractor involvement in operator training is expected to expand in conjunction with new statutory requirements that grantees certify that their facilities are in compliance with effluent requirements by the end of the first year of plant operation.

III. STATUS OF STATE PROGRAMS

A. Allocation of Section 104(g)(1) Congressional Add-on Funds

In FY 1982, Congress added $4.1 million to EPA's budget to assist State operator training program activities and to pay salaries of EPA staff responsible for administering operator training programs. The congressional Conference Committee on Appropriations language directed that the funds be used to improve municipal wastewater treatment facilities compliance, especially in small facilities, through onsite training and technical assistance. Of the add-on funds, $3,292,000 was awarded to 35 States. Implementing Congressional directions, funds were allocated to States based on the following criteria:

- o The majority of the funds should be awarded to States with State training centers established under section 109(b) of the Clean Water Act or other State authority;

- o Funds should be targeted to small Federally funded facilities (generally under 5 mgd effluent discharge), experiencing compliance problems;

- o A diagnostic evaluation should be performed for each facility selected by the State to determine whether compliance problems were operator-training-related and, if so, to determine the types of site-specific technical assistance needed;

- o Onsite, over-the-shoulder technical assistance should be provided by experienced operations and maintenance personnel, preferably State employees;

- o Followup site inspections should be conducted to evaluate the effect of training and technical assistance and to assure continuing performance improvement; and

- o The State should evaluate and document the training and technical assistance efforts, including before and after facility performance and effluent data.

In addition, $575,000 was awarded to a consortium of the National Demonstration Water Project (NDWP), the National Environmental Training Association (NETA) and the American Clean Water Association (ACWA) for technical assistance to 6 States; and $67,200 was awarded to the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA) to summarize and evaluate State operator training programs.

In FY 1983, the Congress again added funds to EPA's budget request, this time adding $2,625,200. Conference committee language directed EPA to continue the policy direction established in 1982. The language also required the Agency to conduct a national study through a national environmental training organization to determine the effectiveness of the onsite training and technical assistance approach, to define the critical common elements of effective State operator training programs and the costs of implementing such programs, and to evaluate the status of each State with respect to achieving programmatic and financial self-sufficiency for operator training.

The majority of the FY 1983 funds were awarded to 48 States and 1 territory, 35 of which had also received FY 1982 funds. By the end of FY 1983, only 2 States, the other territories, and the District of Columbia were not participating in this effort. A $200,000, 2-year grant was also awarded to NETA in 1983 to conduct the national program evaluation. The preliminary information from the NETA project is contained in the following sections on overall State programs status; development of model State programs; and potential Federal, State, and local action-plan activities.

The national FY 1983 funding guidance essentially continued the funding criteria issued for use of FY 1982 funds. However, the Agency also urged States to use a portion of the funds to provide financial management technical assistance to communities in addition to operator technical assistance and to develop Statewide financial management policy guidance. This additional emphasis was based on the Agency's recognition that performance and compliance problems are also caused by inadequate local financial management and inadequate user charges for operations and maintenance. Improved financial management and updated local user charge systems are also critical to improved compliance. Limited funds were also awarded to selected States to summarize the essential program elements and costs associated with implementing effective, self-sufficient operator training programs. Grantees awarded FY 1982 and FY 1983 section 104(g)(1) funds are listed in Attachment E.

The FY 1984 appropriation again provided $2,625,000 to EPA to maintain this effort. The Conference Committee also directed submission of this report. Using FY 1984 funds, a $500,000 grant has been awarded to NDWP to continue their successful training and technical assistance efforts to 40 projects in 5 States. Expanding on their first-year efforts, which were devoted entirely to onsite technical assistance, the funds will also assist Statewide operator training program development, financial management technical assistance, and progress toward self-sufficiency. Allocation of FY 1984 funds to States is expected to be completed by mid-March.

A major objective and accomplishment in award of FY 1982 and FY 1983 funds was to obtain maximum State participation in this program. Award of FY 1984 funds will be more selective. The FY 1984 funds will be targeted to States that have demonstrated a commitment to this effort as reflected in funds expenditure and compliance improvement. States that have not made significant progress and that have adequate funds remaining are not expected to receive FY 1984 funds. Further, we intend to encourage strongly State hiring of qualified technical assistance personnel in State training centers or other responsible State program offices to institutionalize this capability under a self-sufficient program. The continued use of contract assistance approaches will be discouraged.

B. Status of Grant-Funded Projects

Attachment D provides current State-by-State status of funding, project duration, diagnostic inspection and technical assistance commitments and accomplishments to date.

In general, States awarded FY 1982 funds are now well underway in providing technical assistance and showing initial results. No projects have been completed. Most States experienced startup delays averaging 9 months for staffing, internal State coordination and approvals, and grant-funded procurement of minicomputers and diagnostic modeling programs. FY 1983-funded work programs are just beginning to be implemented.

Based on negotiated FY 1982 and FY 1983 grant work plans, States have committed to conduct nearly 1,200 facility problem diagnostic inspections, to provide onsite technical assistance and training at nearly 775 small facilities, and to develop 10 Statewide financial management guidance and assistance programs.

Most current State technical assistance projects will not be completed until the end of FY 1985. Nevertheless, data are becoming available from these projects based on their quarterly reports as well as from the six-State NDWP technical assistance project funded in FY 1982.

The preliminary information from State grantees indicates that the technical assistance program efforts are bearing fruit. In addition to improving performance and compliance at 67 facilities, the States are also improving local decisionmaker involvement in plant operations and maintenance and financial management; improving process-control methods; introducing preventive maintenance programs; reducing costs of sludge handling; improving laboratory and recordkeeping practices; improving infiltration/inflow management; ensuring repair of equipment; and identifying additional operator certification and continuing education needs.

The data received from NDWP confirm these kinds of accomplishments. The funds awarded to the consortium headed by NDWP supported a 1-year technical assistance demonstration project in six southern States, including West Virginia, South Carolina, Tennessee, Mississippi, Louisiana and Kentucky. NDWP worked closely with these States to diagnose compliance problems in over 100 small facilities and to provide intensive onsite operator technical assistance and training at 35 selected facilities. This demonstration project achieved significantly improved facility performance at 15 plants and achieved full compliance at 12 facilities. The effort also identified a number of issues and pitfalls for States to avoid. Evaluation of the NDWP effort has indicated the importance of problem diagnostic modeling and inspections to assure that problems relate to training rather than to design or financial management; good effluent monitoring data and reports upon which to base an evaluation of compliance improvement; effective local utilities and financial management and community recognition of compliance problems; onsite followup to ensure continuing attention to identified problems; and State coordination and support, including compliance actions, to reinforce operator training, operations and maintenance, user charge, and effluent monitoring/reporting requirements.

The preliminary results of the ASIWPCA project are described primarily in the following section on status of State programs. ASIWPCA has queried all States on organizational structure, budgets and staffing, training program objectives, procedures, and requirements, and future training directions and needs. The ASWIPCA report also contains preliminary conclusions and recommendations on Federal, State, and local roles and responsibilities that have been incorporated in the action plan section of this report. Attachment F summarizes the status of training activities in the States that have provided data.

C. Characteristics of State Operator Training Programs

1. General Background

The following information is based primarily on data provided by States to ASIWPCA and NETA in conjunction with program evaluation studies they are conducting for EPA under section 104(g)(1) grants. To date, ASIWPCA has received responses from 30 States; NETA has received data from 35 States. EPA has also obtained some addditional data as part of State 104(g)(1) grantee reporting requirements. Although incomplete, the data in this report appear to represent a good cross section of State programs and trends. Attachment F summarizes the status of State training activities.

2. State Organization

Operator training programs are conducted primarily through State environmental agencies and State 109(b) or other established training centers. Only Nevada does not have a formal training organization. Operator training in that State is provided by the State of California under contract.

Within the State agencies, training may be a separate organizational function. More often, operator training functions have been integrated into the compliance or construction grants program management organization. Even where the State 109(b) training center is identified as the lead State entity, training also occurs within other elements of the water pollution control program.

State water pollution control personnel often exercise multiple responsibilities, including operator training, delegated construction grants management, operations and maintenance, and compliance and enforcement. Training personnel may be involved, appropriately, for integrated program management, in conducting facility plan and specification reviews; providing facility startup services; and conducting operations and maintenance reviews, compliance evaluations, and compliance inspections. Staff directly responsible for these activities also may provide onsite technical assistance and informal training to operators while working with new facilities concerning performance certifications or while conducting compliance evaluations.

Section 109(b) or other training centers generally are associated with State junior colleges or vocational education institutions under the State education departments. Their responsibilities may include Statewide training coordination. These centers are usually training resource centers and provide primarily entry-level/certification and upgrade training. State departments of health also have significant direct or coordination responsibilities in a number of States relating to operator certification training.

3. Training Program Administration

As State training programs have matured, program objectives and resource allocations have expanded to include continuing education and technical assistance as well as operator certification. In most States, program priorities and resources are distributed as follows: certification 20 percent, continuing education 20 to 40 percent, and technical assistance up to 50 percent. The levels of technical assistance are being influenced by section 104(g)(1) funding guidance, but increased technical assistance emphasis coincides with the direction States want to take.

Nearly all States (44) have mandatory operator certification requirements. Operator certification requirements are generally similar among States, providing four classes of certification based on the size and complexity of facilities. However, nationwide, approximately 40 percent of operators are not currently certified for their levels of operations responsibility. Of the approximately 55,000 certified operators in the States that reported, up to 60 percent receive continuing education annually. These continuing education courses are usually of 1 to 2 days duration; States offer 30 to 60 courses annually. States are increasingly expanding certification requirements to include continuing education and knowledge of industrial wastewater treatment processes. Some are considering requiring testing of both wastewater treatment theory and practice.

States also report redirection of their training programs toward achieving improved compliance. Shifts from prior emphasis on training for certification or upgrade as primary objectives are becoming apparent. These results-oriented approaches by States to program management are fully consistent with EPA and congressional objectives. Together with data showing improved integration of training programs within the overall State organization, these trends bode well for the future of operator training in the States.

4. Funding and Staffing

Total annual State training budgets range from $40,000 to $800,000, but are generally in the range of $100,000 to $400,000. The majority of funds in State budgets are composed of State appropriations and Federal Clean Water Act sections 106, 205(g) and 104(g)(1) grants. Most State budgets have some local-funding component, generally from tuition and fees, ranging from 9 percent to 86 percent of budgets. Pennsylvania, Illinois, Michigan, and Ohio obtain more than 50 percent of State funds from local sources. Only a few States have no direct State appropriations. These States rely entirely on course tuition or Federal funds. Only 13 States report more than 50 percent of budget from Federal funds. The percentage of State funding to total annual training investment ranges up to 100 percent with an average of slightly over 50 percent. Federal funding is obtained primarily from State agency allocations of section 106 State program grants or State targeting of available section 205(g) construction management grants. Section 104(g)(1) add-on funds have represented a significant additional funding source since early FY 1983 in some States. However, sections 106 and 205(g) funds are predominant and are viewed by States as a more reliable, continuing source of operator training assistance.

The agency believes the available funding information underestimates total State contributions to operator training programs. The operator-training-related activities by State construction grants management, operations and maintenance, and compliance and enforcement personnel are generally not included in these budget figures. Based on overall data, the agency believes that the support provided by these programs may represent a significant additional contribution to the total State training program.

State self-sufficiency, as currently defined, is the ability to maintain an effective operator training program using only local tuition and fees and State appropriated funds as necessary. A total of 11 States reported to NETA that they were self-sufficient. These States are New York, Minnesota, Illinois, Iowa, Georgia, Idaho, Texas, Arkansas, Ohio, Alaska, and Indiana. Of the States reporting self-sufficiency, 9 reported that they were capable of maintaining needed operator training program activities through State and local funding and tuition/fee systems; i.e., Federal assistance is not essential. A total of 25 States reported that they could not maintain current programs in the absence of Federal funds. From reviewing these and other State program descriptions, it is clear that only a few States approach a comprehensive, integrated, "model" training program. However, a number of States also appear to be moving toward improved overall programs, to increasing State funding, and to developing cost-based local tuition and fee systems for true self-sufficiency.

With respect to operator training program staffing, many States rely heavily on part-time trainers, both salaried and volunteer. This is particularly true in large States such as New York, California, Pennsylvania, and Minnesota with a total of over 300 part-time trainers. States average about 3 full-time trainers, with a range of zero to 11. In most States, these trainers have a significant number of years of experience. Qualifications of staff include professional engineering, training/vocational education, and facility operations, obtained both academically and on-the-job. The part-time trainers are generally responsible for short-course continuing education and onsite technical assistance. The full-time trainers are primarily responsible for training-center administration, materials development, certification testing, and entry-level training through the State departments of education or health.

5. Planning and Evaluation

The majority of State programs provide for program planning and evaluation. Although plans may not be comprehensive or updated annually, they provide a basis for identifying needs and evaluating accomplishments. Program evaluation is generally oriented to evaluation of the effectiveness of training through participant feedback. Evaluation criteria are expanding, however, to include plant performance improvements based on compliance information, including review of discharge monitoring reports and compliance inspections.

IV. TENTATIVE CONCLUSIONS

The analysis and tentative conclusions that follow are based on preliminary data received to date from 45 States and national organizations. The following information summarizes all information available on the essential components of effective State operator training and compliance programs; current Federal and State efforts to ensure effective programs; and potential programs and activities needed to assure operator training, operations and maintenance, and compliance and enforcement.

Following submission of this report, the agency will continue to obtain and evaluate data from additional States, to work with EPA program officials and State and local interest group representatives to define future actions, and to prepare a followup report to Congress containing recommendations for implementing compliance-oriented self-sufficient State and local programs. The agency expects to submit a followup report to Congress by early fiscal year 1985.

A. Federal, State, and Local Roles and Responsibilities

Stated as goals and objectives, the following outlines complementary Federal, State, and local roles and responsibilities for achieving improved municipal facilities compliance. The definition of roles and responsibilities is provided as a basis for developing a model State operator training program and for defining Federal, State, local, and private-sector action plans to achieve improved overall municipal facilities compliance. Because improved operator training programs are only one element in achieving the overall objective, these roles and responsibilities relate to other needs at each level of government.

1. Federal

a. Goal

To achieve improved water quality through implementation of effective, self-sufficient Statewide programs that provide for coordinated operator training, operations and maintenance management, and enforcement.

b. Objectives

o To provide Federal oversight to implementation of the National Municipal Policy and State-local efforts to ensure coordinated, compliance-oriented programs.

o To promote development of State self-sufficiency to maintain effective operator training programs through State-local fee systems and State appropriated funds approaches (and financial assistance under sections 205(g) and 106 of the Clean Water Act), and to ensure local user-charge systems that support effective, self-sufficient facilities construction, operations and maintenance, and operator training.

o To support use of section 109(b) or State funds to construct State training centers that provide an institutional focus in the State, comprehensive operator training, and onsite technical assistance.

o To support use by States of sections 205(g) and 106 funds to assist their transition to full State self-sufficiency.

o To promote communication among States, municipalities, professional associations, interest groups, and the private sector to create public awareness of the importance of operator training, to share ideas, and develop coordinated approaches for improved municipal facilities compliance.

o To promote professional status, certification, training, and improved operator salary structures.

2. State

a. Goal

To ensure municipal facilities compliance through comprehensive, coordinated, and self-sufficient operator training programs; operations and maintenance programs; technical and financial management assistance programs; and enforcement programs.

b. Objectives

o To develop strategies to bring noncomplying facilities into compliance using training in conjunction with other State activities and local communities to achieve National Municipal Policy requirements.

o To provide Statewide policies, guidance, and standards for local governments on operations and maintenance, user charges, and operator training and certification.

o To monitor municipal facilities compliance and to respond to evidence of noncompliance in accordance with the National Municipal Policy with appropriate technical assistance, training, and compliance actions.

o To identify and implement appropriate self-financing mechanisms, including user-fee systems and appropriated State funds, in order to maintain adequate local utility management, and effective Statewide operations and maintenance oversight, operator training, and technical assistance programs.

o To establish and implement a State operator training program that includes a State training center funded under section 109(b) or other approach, and that provides certification, upgrade, and coupled on-the-job training, and onsite techical assistance.

o To increase local awareness of statutory requirements through construction grants, permitting, and operator training activities, and the cost-effectiveness of operator training and improved operations and maintenance, and to ensure maintenance of local user-charge systems that recover current costs of operations, maintenance, routine equipment replacement, operator training, and facility expansion needs.

o To provide technical and program management assistance and information to local officials, facility operators, and the private sector to ensure use of appropriate, cost-effective technologies and improved operating facilities compliance.

o To achieve improved operator salary structures, professional status, and certification and upgrade programs.

3. Local

a. Goal

To construct, operate, and maintain municipal wastewater treatment facilities that comply with design and effluent requirements.

b. Objectives

o To prepare necessary compliance and correction plans to ensure that the municipality can achieve and maintain compliance.

o To ensure that proposed wastewater treatment facilities are within the community's financial management capability, can meet effluent requirements, and are operated effectively.

o To ensure that user charge systems are established and maintained that continue to recover the costs of operation, maintenance, routine equipment replacement, operator training, and expansion needs.

o To ensure that facilities are staffed by operators who are trained to operate and maintain the facilities in compliance with requirements and that salary structures and the working environment attract and retain qualified and certified operators.

o To administer and enforce pretreatment requirements.

B. Model State Program

As requested by Congress, funds were provided to NETA and directly to selected States to define the critical, common elements of effective State operator-training programs and the costs of implementing effective programs. NETA selected 11 States whose programs, in their view, contained individually or collectively the elements of effective, self-sufficient operator-training programs. Regional offices also provided limited funds to other selected States to augment the NETA work. Although the data has not been fully evaluated, particularly with respect to staffing and funding needs, the basic components of an effective State program are becoming apparent.

Although the fundamental elements of any State program, as described below, are becoming clear, we are not proposing at this time that they constitute the "model" toward which States should direct their developmental efforts. A model State program description addressing critical elements, qualitative factors, and costs, requires further efforts and coordination with other EPA program offices and with State managers responsible for operator training, operations and maintenance, and compliance. Through these cooperative efforts, we expect to reach agreements on staffing needs and other costs necessary to develop and maintain operator-training programs that are financially and programmatically self-sufficient.

The following program elements now exist in most State programs to some extent. They are also elements identified by States as needed additions to current programs.

1. Statement of Goals and Objectives

o A comprehensive statement of Statewide goals and objectives emphasizing primarily protection of water quality and public health, facilities compliance with performance and effluent requirements, and protection of public investments.

2. Planning and Evaluation Program

o An annual plan that sets program priorities and budget levels, establishes coordination mechanisms within the State and among Federal and local governments, and that provides a basis for evaluating training effectiveness based primarily on compliance improvement.

o A formal evaluation program to measure quantitative and qualitative program accomplishments. Evaluation must be broad-based and relate training effectiveness to operations and maintenance, technical assistance, and compliance and enforcement accomplishments.

o Feedback of evaluation results to State training and other program offices, local government officials, and operators to redirect programs, priorities, and resources as needed.

3. Overall State Organization

o State support to operator training objectives and needs and commitment of needed resources pending development of full State-local self-sufficiency.

o Organizational integration of the training function (or formal coordination mechanisms) to ensure coordinated Statewide training, technical assistance, operations and maintenance, and compliance and enforcement programs.

o Cooperative management of the National Municipal Policy requiring local compliance with or without Federal funds.

o Cooperative management of technical assistance and compliance efforts to assure that operator training and technical and financial management assistance are provided as needed to noncomplying-facility operators and local government officials.

o Establishment of a State training center under the provisions of section 109(b) of the Clean Water Act or other mechanism to provide a Statewide focal point and an institutional structure for training.

4. Training Program Organization

o A balanced mix of entry-level training, continuing education, and technical assistance to assist operators at all skill levels.

o Adequate operator training resources including laboratory facilities, library services, pilot-scale treatment facilities, audiovisual equipment, and training materials.

o Mandatory operator certification with requirements for certification at the operator's level of responsibility in the facility. Certification testing should include both theory and hands-on testing. Interstate reciprocity of certification is desirable.

o Onsite training and technical assistance provided by people with treatment plant operations experience who can also train others.

o Annual inservice training for all operators to develop and maintain needed skills and to provide information on new technologies and operations and maintenance practices.

o Use of training materials that have been determined to be most effective and that are directed to the individual operator's "need to know".

5. Funding and Staffing

o Local course tuition, training and inspection fees, and operator certification charges to recover costs of training and technical assistance.

o State (and Federal) funds to maintain essential program requirements in the absence of self-sufficiency. Federal funds composed primarily of available sections 106 and 205(g) grants with a decreasing reliance on these resources.

o Adequate numbers of full-time and part-time State personnel to manage programs and provide training. Personnel must include professional wastewater treatment specialists, training specialists, and experienced operators for onsite assistance.

o Adequate State travel budgets to ensure onsite technical assistance, particularly for small, isolated facilities.

C. Action Plan

As with the section on model State programs, the elements of a coordinated Federal, State, and local action plan for programmatic and financial self-sufficiency are incomplete and require significant further discussion with representatives of each level of government. Actions identify additional policies, programs and activities suggested by national organizations, including ASIWPCA, NETA, and NDWP, and EPA program managers.

Following submission of this initial report, EPA will convene a working group of Federal, State, local, and other appropriate officials responsible for operator-training-related programs to define realistic short-term and long-term policies, programs, and activities, consistent with agreed-upon Federal, State, and local roles and responsibilities for ensuring improved municipal compliance. Although this is not yet an action plan, there are broad areas of agreement.

1. Current EPA Actions

EPA has a number of activities underway that support operator training and that will help improve municipal treatment facilities compliance. In addition to working closely with various national organizations, the agency is conscientiously managing the congressional add-on section 104(g)(1) funds to meet congressional directives and compliance improvement objectives.

Computer diagnostic modeling programs are being enhanced to improve front-end identification of design and operations and maintenance problems and to target operator training and technical assistance. A complementary financial-organization management diagnostic model is also being developed to help communities identify issues in these areas that affect plant performance.

A national training conference has been scheduled at Atlanta, Georgia, to bring together State and EPA training officials, especially those responsible for administering grant-funded programs; and to exchange information on training needs, technical assistance approaches, training delivery issues, and accomplishments to date.

More broadly, the agency is issuing local financial management guidance materials and information to help ensure improved facility performance through first-year grantee performance certifications. Revised construction grants program management, delegation management, secondary treatment regulations, and a financial management capability policy also have been issued or are about to be issued.

Of major importance is the newly issued National Municipal Compliance Policy which sets a clear national direction for all levels of government and which will promote new incentives for improved compliance.

2. Long-term EPA Actions

Other Federal actions may include activities to:

o Support the need for operator training and improved financial management in policies, guidance, and regulations.

o Identify creative fiscal approaches to help States achieve financial and programmatic self-sufficiency in operator training and promote local self-sufficiency.

o Disseminate information on identified critical, common elements of effective State training programs and associated implementation costs.

o Encourage the implementation of effective "model" operator training programs at State and local levels.

o Provide technical assistance to States and grantees for improved operations and maintenance.

o Promote integrated State programs for improved coordination of operator training, operations and maintenance, technical assistance, and compliance and enforcement.

o Promote establishment of section 109(b) State training centers in additional States and recommend broadened statutory limitations on uses of these funds.

o Encourage additional State use of available sections 205(g) and 106 grant funds to develop and initially implement needed operator training programs pending full State self-sufficiency.

o Condition Federal grant funds to encourage State-local self-sufficiency and to institutionalize State onsite technical assistance programs and staffing.

o Oversee implementation of the National Municipal Policy and expand oversight of State operations and maintenance and training programs.

o Develop and disseminate technical information on effective and ineffective wastewater treatment technologies and facility operations and management practices to encourage simpler, cost-effective treatment systems, particularly for small communities.

o Support increased emphasis on treatment plant esthetics and health and safety to promote an improved workplace environment for operators.

o Promote increased private sector involvement in training through the Water Pollution Control Federation, other professional associations, and the EPA Management Advisory Group.

3. State Actions

Although States believe operator training, operations and maintenance, and permit compliance are primarily local responsibilities, State efforts, especially related to operator training and local technical assistance appear to be increasing. Many States also appear to have recognized that State operator training programs must become self-sufficient. Further, States are moving to improve coordination of related activities and to establish integrated approaches to municipal compliance problems.

Additional possible State efforts that have been identified to encourage these trends include actions to:

o Examine and implement creative State-local funding mechanisms for self-sufficiency and earmark appropriated funds for operator training.

o Establish State action plans and organizational approaches to coordinate and integrate management of all municipal wastewater treatment facility-related activities and to achieve identified critical elements of effective training programs.

o Implement the National Municipal Policy securing municipal correction and compliance plans from communities.

o Use all program authorities more creatively to provide incentives for improved compliance using the various compliance and training-technical assistance programs to quickly and effectively bring communities into compliance.

o Establish mandatory certification programs that require operator certification based on the size and complexity of the facility and that test both theoretical and operations knowledge.

o Maintain sound entry-level and continuing-education programs oriented to plant performance.

o Train and hire State training personnel to provide onsite technical assistance and training, especially for operators of small facilities.

o Establish State training centers using section 109(b) funds or other appropriate mechanisms to provide an institutional structure and focal point in the State.

o Provide communities with financial management guidance and assistance prior to facility construction and guidance on effective, optimal user-charge systems.

o Encourage innovative local financing arrangements, particularly for those communities that will not receive Federal construction grants.

o Use diagnostic approaches to identify design problems prior to construction, to identify existing facility design, operations and maintenance, and operator training problems, and to target assistance, training, and compliance activities.

o Maintain treatment facility laboratory oversight, including quality assurance as required by regulations.

o Develop and innovatively disseminate training materials that meet operator needs most closely.

o Evaluate discharge monitoring reports more frequently and follow up on persistent effluent noncompliance and failure to report to identify facilities needing training, assistance, or other compliance actions.

o Use Federal sections 205(g) and 106 funds to develop needed programs and to maintain essential capabilities, pending full implementation of State-local self-funding programs.

o Promote operator peer assistance and private sector training and technical assistance.

4. Local Actions

The local community has the primary responsibility to achieve and maintain compliance through effective operations and maintenance, financial management, and operator training.

Data tend to show that the majority of noncompliance is now in small facilities. These small communities tend to have more training needs, more financial problems, and more operations and maintenance problems. They also generally have received less technical assistance and a low priority for enforcement.

Local officials need to:

o Improve cost-accounting and financial management systems to identify costs associated with effectively maintaining facilities.

o Report timely and accurately on permit compliance and maintain or obtain effective effluent monitoring and analytical laboratory capability.

o Establish preventive maintenance and energy budgets to prolong the life of the facility and to reduce costs.

o Update user-charge systems to recover the costs of operations and maintenance, to provide regular operator training, and to meet equipment replacement and construction needs.

o Ensure that operators are properly trained for the facility they operate, including the appropriate level of certification and continuing education.

o Improve operator salaries to attract and retain qualified personnel.

o Solve compliance problems primarily through peer-assistance or private-sector assistance. Request State assistance when other assistance cannot be obtained.

o Prepare correction and compliance plans to maintain facilities in compliance with the National Municipal Policy.

5. Private Sector

The private sector has always had a significant role in municipal facilities construction, operations and maintenance, and, to a lesser extent, operator training. This role is increasing and should continue to represent a major element in the overall effort. Smaller communities have not been a significant user of private sector training and technical assistance services principally because of costs and geography. Nevertheless, the need is apparent and, through innovative approaches, there are additional opportunities and markets for private-sector training. In addition to other new approaches, the private sector could:

o Develop multicommunity contractual arrangements and establish "circuit-rider" approaches.

o Use teleconferencing, "hot-lines", and microcomputer software programs for process control, effluent control, and financial management assistance.

o Develop videotape operator training materials for home viewing.

o Market self-teaching programs for continuing education.

THE END

V. ATTACHMENTS

A. Summary of EPA Training Programs
B. State Training Centers
C. States Considering Establishing Training Centers and Non-109(b) State Centers
D. Status of 1982-1983 Operator Training Grants
E. Section 104(g)(1) Grantees
F. Status of State Training Activities
G. Federal Funding Levels for Operator Training

Attachment A

SUMMARY OF EPA TRAINING PROGRAMS

Program	Legislative Authority	EPA Contribution
Professional Training Grants	Section 5(g)(3)(A) of 1970 Water Quality Improvement Act	Financial support to educational institutions for graduate-level programs in water pollution control.
Research Fellowship	Sec. 5(g)(3)(B) of 1970 Water Quality Improvement Act	Awards to graduate students for special research training in water pollution control.
Direct Technical Training	Sec. 5(g)(3)(C) of 1970 Water Quality Improvement Act	Direct training, conducted in EPA facilities by EPA staff, for professionals and others in technical matters relating to causes, prevention, and control of water pollution.
Technology Transfer	Sec. 5(g)(3)(C) of 1970 Water Quality Improvement Act	Direct training to practicing professionals, public decisionmakers, conservation groups, and general public.
MDTA:		
Coupled OJT) Institutional) Training)	EPA was agent for Dept. of Labor (DOL) and Health, Education, and Welfare (HEW) under Manpower Development and Training Act (MDTA)	Program administration for entry-level operator training.
Public Service Careers	Agent for DOL under MDTA	Program administration for entry-level operator training.
Transition	Agent for HEW and Dept. of Defense	Program administration for entry-level operator training.
Pilot Program	Sec. 5(g)(1) of 1970 Water Quality Improvement Act	Financial and training support for operator training and related activities.
Undergraduate Training Grants	Sec. 16 of 1970 Water Quality Improvement Act	Financial support to undergraduate institutions to conduct programs in water pollution control, facilities design, and O&M.
Undergraduate Scholarships	Sec. 18 of 1970 Water Quality Quality Improvement Act	Awards to undergraduate students for study leading to careers in operation and maintenance of wastewater treatment facilities.
Pilot Program Continuation	Sec. 104(g)(1) of 1972 Water Pollution Control Act	Continued financial and training support for operator training and related activities.
State Training Centers	Sec. 109(b) of 1972 Water Pollution Control Act	100% Federal grants up to $250,000 to States to build State/Interstate training center to train O&M personnel.
State Training Centers	Sec. 109(b) of 1977 Water Pollution Control Act Amdts	100% Federal grants up to $500,000 to States to build State/Interstate training center to train O&M personnel.

WASTEWATER TREATMENT PLANT OPERATOR
STATE TRAINING CENTERS

Location	Name	Contact	Phone
	Region I		
New England Regional South Portland, Maine NERWI Southern Maine Technical College 2 Fort Road Portland, Maine 04106	New England Regional Wastewater Institute	Kirk Laflin	(207) 799-7303
New Hampshire, Franklin Water Supply & Pollution Control Commission P.O. Box 95 Concord, N.H. 03301	Franklin Regional Treatment Center	Robert Livingston (Concord) (Franklin)	(603) 271-3503 934-6463
Massachusetts, Boston Dept of Envir. Quality 1 Winter Street Boston, MA 02109	U. of Lowell U. of Amherst U. of Bridgewater U. of Marlborough	Marc Perry	(617) 292-5698
	Region II		
New Jersey, New Brunswick Wastewater Treatment Plant Dept. of Environmental Science, Cook College Rutgers University New Brunswick, N. J.	New Jersey State Training Center	Vince Gregorio	(201) 932-9185
	Region III		
Maryland - La Plata Maryland State Training Center, Charles County Community College Box 910 - Mitchell Road La Plata, MD 20646	Maryland State Training Center	Jake Bair	(301) 934-2251 ext. 340

WASTEWATER TREATMENT PLANT OPERATOR STATE TRAINING CENTERS

Location	Name	Contact	Phone
Virginia, Richmond J. Sargent Reynolds Community College 1651 Parham Road Richmond, Virginia 23230	Operator Training Center	Jack Vanderland	(804) 264-3315
W. Virginia - Charleston Dept. of Education 1900 Washington St. E. Charleston, W. VA 25305	Operator Training Center (Under Construction)	Adam Sponaugle	(304) 348-3075
Washington, D.C. 5000 Overlook Ave., S.W. Dept. of Envir. Science Bureau of Wastewater Treatment Washington, D.C. 20032	Dept. of Environmental Services	Charles R. Martin	(202) 727-5757
	Region IV		
Tennessee, Murfreesboro Rte 11 box 388 Blanton Drive Murfreesboro, TN. 37130	Murfreesboro State Training Center	Jack Hughes	(615) 890-7008
Georgia, Carrollton Georgia Water and Wastewater Institute P. O. Box 1476 Carrollton, GA 30117	Georgia Water and Wastewater Institute P. O. Box 1476 Carrollton, GA 30117	Jim Bennett	(404) 834-1468
Florida, Gainesville The U. of Florida TREEO Center 3900 S.W. 63rd Blvd Gainesville, Fl 32608	TREEO Center	Dr. Barbara Mitchell	(904) 392-2464
South Carolina, Sumter Sumter Area Technical College 506 N. Guignard Drive Sumter, S. Carolina 29150	South Carolina Water Quality Institute	Tony Bledsoe	(803) 778-1961

WASTEWATER TREATMENT PLANT OPERATOR
STATE TRAINING CENTERS

Location	Name	Contact	Phone
	Region V		
Illinois, Edwardsville Environmental Resources Training Center Southern Illinois U. P. O. Box 75 Edwardsville. Ill. 62026	Environmental Resources Training	Tom Wooters	(217) 692-2030
	Region VI		
Arkansas, Camden Southern Arkansas University Tech. Branch P.O. Box 3048 East Camden, AK 71701	Southern Arkansas Environmental Academy	Richard VanPelt	(501) 574-4550
New Mexico, LasCruces Dona Ana County Occupational Education Branch, New Mexico State University P.O. Box 3 DA LasCruces, NM 88003	Water Utilities Technology Program	Eugene E. Nelms	(505) 646-2730
Oklahoma, Midwest City Rose State College 6420 Southeast 15th St. Midwest City, OK 73110	Water Utilities Training Center	Dr. Wm R. Roach	(405) 733-7364
	Region VII		
Iowa, Cedar Rapids Wastewater Treatment Plant Operator Training Center Kirkwood Community College P.O. Box 2068 Cedar Rapids, IA 52406	Waste & Wastewater Technology Center Envir. Occupations Education Dept.	Doug Feil	(319) 393-5677

WASTEWATER TREATMENT PLANT OPERATOR
STATE TRAINING CENTERS

Location	Name	Contact	Phone
Kansas, Topeka State Technical Training Kansas State Dept. of Health & Environment Topeka, KS 66620	Fort Scott Community College Salina Community Dodge City Community College Mobile Facility	Karl Mueldener	(913) 862-9360
Missouri, Neosho Missouri Water and Wastewater Operator Training Facility Crowder Community College Neosho, MO 64850	Missouri Operator Training Center	Richard Thexton Don Wall	(417) 451-3583 451-1250
Region VIII			
Colorado, Denver Community College of Denver-Red Rock 1600 Downing Street Denver, CO 80218	Colorado Wastewater Operator Training Center	Tom Feeley	(303) 988-6160 ext. 334
Utah, Provo Utah Technical College 1395 N. 150 East P.O. Box 1609 Provo, Utah 84603	Wastewater Operator Training Facility	Debra Horton	(801) 226-5000
Wyoming, Casper Casper College 125 College Drive Casper, Wyoming 82601	Casper College State Wastewater Training Center	Gale Zimmerman Bill Mixer	(307) 268-2542 268-2670

WASTEWATER TREATMENT PLANT OPERATOR
STATE TRAINING CENTERS

Location	Name	Contact	Phone
	Region IX		
California, San Marcos California State CSWRCB Water Quality Institute 810 W. Vallecitos Street Suite A San Marcos, CA 92069	CSWRCB Water Quality Institute	Charles V. Weir	(619) 744-4150
Government of Guam P.O. Box 23609 Agana, Guam	Guam Community College	Stan Malkin	(617) 734-4311
Commonwealth of the Marianas. SAIPAN Trust Territory of the Pacific Islands SAIPAN, CM 96950	Office of Planning and Statistics	Charles D. Jordan	SAIPAN 9333
	Region X		
Washington, Auburn Washington State Water/ Wastewater Training Center Green River Comm. Coll. 12401 SE 320th Street Auburn, WA. 98002	Waste Training Program	Fred Delvecchio	(206) 833-9111 ext. 369
Idaho, Boise Boise State University School of Vocational Education 2221 N.W. 8th Street Meridian, Id. 83642	Wastewater Training Center	Veronica Fitz	(208) 385-3735 888-1740

ATTACHMENT C

STATES CONSIDERING ESTABLISHING SECTION 109(b) TRAINING CENTERS

The following States and 1 territory are considering using up to $500,000 of their construction grants allotment to construct a State training center under Clean Water Act section 109(b) authority:

1. Connecticut
2. Vermont
3. Puerto Rico
4. Louisiana
5. Nebraska
6. Montana
7. Arizona
8. California
9. Hawaii
10. Alaska

STATES THAT HAVE DEVELOPED TRAINING CENTERS WITHOUT SECTION 109(b) FUNDS

1. California
2. Illinois
3. Tennessee

STATUS OF 82/83 OPERATOR TRAINING GRANTS

ATTACHMENT D

STATE	SCHEDULE	82/83 Dollars	# OF FEDERALLY FUNDED PLANTS UNDER 5 MGD	# OF MECHANICAL PLANTS	# OF DIAGNOSTIC EVALUATIONS	# OF ONSITE TECHNICAL ASST	#OF FINANCIAL MGMT PROGRAMS	# OF PLANTS BROUGHT IN COMPLIANCE	# OF PLANTS SHOWING IMPRVMT
Vermont	10/1/82 to 9/30/85	50,000	82	82	24	24			
New Hampshire	10/1/82 to 9/30/85	126,000	65	65	42	16		1	6
Massachusetts	10/1/82 to 9/30/84	50,000	96	96	20	8			4
Connecticut	10/1/82 to 9/30/85	90,000	59	59	14	11			8
Rhode Island	10/1/82 to 9/30/84	50,000	20	20					
NEIWPC	10/1/82 to 9/30/85	275,000	-	-	21	21	1		
Maine	10/1/83 to 9/30/85	50,000	100	100	11	5			
New Jersey	9/15/82 to 9/15/85	125,000	46	46	20	10			
New York	9/30/82 to 9/29/84	120,000	250	250	32				
Puerto Rico	10/1/83 to 9/30/85	104,000	25	25	10	10			
Pennsylvania	10/1/82 to 9/30/84	110,000	193	193	20	10			
Maryland	10/1/82 to 9/30/85	137,000	40	40	20	15	1		
Delaware	10/1/83 to 9/30/85	33,000	22	20	15	6	1		
Virginia	10/1/82 to 9/30/84	137,000	42	42	25	15			
West Virginia	10/1/83 to 9/30/84	32,000	36	36	20 *8	10 *8	*5	*2	
Florida	10/1/82 to 9/30/85	148,917	131	129	24	10			
Georgia	10/1/82 to 9/30/85	141,260	259	179	20	10	1		

ATTACHMENT D (Page 1)

Status of 82/83 Operator Training Grants (continued) Page 2

STATE	SCHEDULE	82/83 DOLLARS	# OF FEDERALLY FUNDED PLANTS UNDER 5 MGD	# OF MECHANICAL PLANTS	# OF DIAGNOSTIC EVALUATIONS	# OF ONSITE TECHNICAL ASST	# OF FINANCIAL MGMT PROGRAMS	# OF PLANTS BROUGHT IN COMPLIANCE	# OF PLANTS SHOWING IMPRVMT
Tennessee	10/1/82 to 9/30/85	101,260	201	152	21 *2	9 *2			*2
North Carolina	10/1/83 to 9/30/85	60,000	232	204	25	10			
South Carolina	10/1/83 to 9/30/85	75,000	196	103	20 *11	10 *11		*3	*6
Mississippi	10/1/83 to 9/30/85	38,763	304	58	4 *6	4 * 6			*4
Alabama	1/1/84 to 9/30/85	54,800	211	107	10	6			
Kentucky*					4	4		2	1
Illinois	10/1/82 to 9/30/84	180,000	377	377	14	14	1		
Indiana	10/1/83 to 3/30/85	63,184	232	232	10	10			
Michigan	10/1/83 to 9/30/84	40,000	263	263	10	10			
Minnesota	10/1/83 to 9/30/84	65,966	330	330	8	8			
Ohio	10/1/83 to 3/31/85	40,000	302	302	8	8			
Wisconsin	10/1/83 to 9/30/84	78,850	423	422	12	12			
Arkansas	10/1/82 to 12/31/84	180,000	280	120	17	12			
Louisiana	4/1/83 to 9/30/85	102,000	221	137	25	17		*2	
New Mexico	10/1/82 to 9/30/84	100,000	127	117	20	10			

Attachment D (Page 2)

Status of 82/83 Operator Training Grants (continued) Page 3

STATE	SCHEDULE	82/83 DOLLARS	# OF FEDERALLY FUNDED PLANTS UNDER 5 MGD	# OF MECHANICAL PLANTS	# OF DIAGNOSTIC EVALUATIONS	# OF ONSITE TECHNICAL ASST	# OF FINANCIAL MGMT PROGRAMS	# OF PLANTS BROUGHT IN COMPLIANCE	# OF PLANTS SHOWING IMPRVM
Oklahoma	11/1/82 to 10/31/85	270,000	456	252	33	22			
Texas	9/1/83 to 6/30/85	140,000	782	666	15	10			
Iowa	9/1/82 to 9/30/85	236,000	702	323	85	50			
Kansas	7/20/82 to 9/30/85	222,000	707	474	65	45			
Missouri	8/1/82 to 9/30/85	237,000	688	371	40	25			
Nebraska	9/10/82 to 9/30/85	158,000	348	174	20	14			
Colorado	10/1/82 to 9/30/84	143,000	156	123	14	9	1		
Montana	10/1/82 to 9/30/85	78,000	124	39	8	4	1		
North Dakota	1/1/83 to 12/30/85	60,000	235	3	100	95			
South Dakota	10/1/82 to 9/30/86	88,000	188	42	27	18	1		
Utah	10/1/82 to 12/30/84	143,000	80	24	24	13			
Wyoming	10/1/82 to 9/30/86	130,000	66	10	19	13			
Arizona	10/1/82 to 9/30/84	35,000	50	25	5	5			
California	10/1/82 to 9/30/84	163,000	365	360	20	10			
Hawaii	1/4/83 to 1/30/85	25,000	16	16	5	5			
Alaska	10/14/83 to 9/30/84	40,000	22	20	17	7			
Idaho	10/1/82 to 9/30/84	178,000	145	35	49	17			
Oregon	10/1/82 to 9/30/84	132,000	188	153	48	9	1		
Washington	10/1/82 to 9/30/84	155,000	322	302	60	30			

Attachment D (Page 3)

Section 104(g)(1) Operator Training Grantees

Region 1

Grantee	Operations Unit	Contact	Phone
New England Regional South Portland, Maine NERWI Southern Maine Technical College 2 Fort Road Portland, Maine 04106	New England Regional Wastewater Institute	Kirk Laflin	(207) 799-7303
New Hampshire, Concord Water Supply & Pollution Control Commission P.O. Box 95 Concord, N.H. 03301	Franklin Regional Treatment Center	Robert Livingston (Concord) (Franklin)	(603) 271-3503 934-6463
Massachusetts, Boston Commonwealth of Massachusetts Dept of Envir. Quality Division of Water Pollution Control One Winter Street Boston, MA 02109	DEQE-DWPS	William Gaughan	(617) 292-5658
Connecticut, Hartford Dept. of Environmental Protection Water Compliance Unit State Office Bldg. Hartford, CT 06106	State of Conn. Dept. of Envir. Protection	Roy Fredricksen	(203) 566-2719
Maine, Augusta Dept. of Env. Protection O&M Division Ray Office Bldg. Hospital Street Augusta, Me. 04330	Division of Operation and Maintenance	Kenneth Shirkey	(207) 868-3355

Section 104(g)(1) Operator Training Grantees (continued) Page 2

Grantee	Operations Unit	Contact	Phone
Rhode Island, Providence Narragansatt Bay Water Quality Mgmt. District Commission 57 Eddy Street Providence, R.I. 02903	Narragansatt WQMD	Jack Keane	(401) 277-6795
Vermont, Montpelier Department of Water Resources and Environ- mental Engineering State Office Bldg. Montpelier, VT. 05602	DWREE	William C. Brierly	(802) 828-3345
	Region II		
New York, Albany New York Dept. of Envir. Conservation 50 Wolf Road Albany, New York 12233	NYDEC	Daniel Campbell	(518) 457-5968
New Jersey, Trenton New Jersey Dept. of Environmental Protection Div. of Water Resources P.O. CN-029 Trenton, N.J. 08625	N.J.D.E.P.	Anthony Ricigliano Richard Cranmer	(609) 292-0950
Puerto Rico, Santurce Puerto Rrico Env. Qual. Bd. P.O. Box 11488 Santurce, P.R. 00910	Puerto Rico EQB	Carl-Axel Soderberg	(809) 725-0717

ATTACHMENT E (Page 2)

Grantee	Operations Unit	Contact	Phone
	Region III		
Maryland - La Plata Maryland State Training Center, Charles County Community College Box 910 - Mitchell Road La Plata, MD 20646	Charles County Community College	Jake Bair	(301) 934-2251 ext. 340
West Virginia, Charleston West Va. Dept. of Education Capitol Complex Bldg. Charleston, W. Va. 25305	Cedar Lakes Training Center	Adam Sponaugle	(304) 348-3075
Virginia, Richmond P.O. Box 11143 Richmond, VA 23230 State Water Control Board 23230	Operator Training Center	Jack Vanderland	(804) 264-3315
Pennsylvania, Harrisburg Penn. Dept. of Envir. Resources Bureau of Water Quality Management P.O. Box 2063 Harrisburg, PA 17120	Pa. D.E.R	Charles Kuder	(717) 787-3481
Delaware, Dover Delaware Dept. of Natural Resources and Environmental Control P.O. Box 1401-89 Kings Hwy Dover, Delaware 19903	Delaware DNR&EQ	Roy R. Parikh	(302) 736-5732
	Region IV		
Tennessee, Nashville Tennessee Dept. of Public Health 150 Ninth Avenue, North Nashville, TN 37203	Murfreesboro State Training Center Rte 11, Box 388	Jack Hughes	(615) 890-7008

Grantee	Operations Unit	Contact	Phone
Georgia, Atlanta Georgia Dept. of Natural Resources 270 Washington Street Atlanta, GA 30331	Georgia Water and Wastewater Institute P. O. Box 1476 Carrollton, GA 30117	Jim Bennett	(404) 834-1468
Florida, Gainesville The U. of Florida TREEO Center 3900 S.W. 63rd Blvd Gainesville, Fl 32608	TREEO Center	Dr. Barbara Mitchell	(904) 375-6398
North Carolina, Raleigh N.C. Dept. of Natural Resources & Community Development P.O. Box 27687 Raleigh, N.C. 27611	N. Caro. DNR&CD	John A. Campbell	(919) 733-4038
South Carolina, Sumter Sumter Area Technical College Water Quality Institute 506 N. Guignard Drive Sumter, S. Carolina 29150	Sumter Area Technical College	Dr. William Engle	(803) 778-1961
Alabama, Montgomery Dept. of Env. Mgmt. State Capitol Montgomery, Alabama 36130	Municipal Waste Control Section	William Monasco	(205) 277-3630
Region V			
Illinois, Springfield Illinois EPA 2200 Churchill Road Springfield, Ill 62706	Illinois EPA	Eugene Seebald	(217) 956-1654

Grantee	Operations Unit	Contact	Phone
Indiana, Indianapolis Indiana State Board of Health 1330 W. Michigan Street Indianapolis, Indiana	Indiana State Board of Health	Steve Kim	(317) 633-0708
Michigan, Lansing Dept. of Natural Resources P.O. Box 30028 Lansing, Mi 48909	Michigan DNR	Howard Selover	(517) 373-0397
Minnesota, Roseville Minnesota Pollution Control Agency 1935 West County Road Roseville, Mn. 55113	Minnesota PCA	Bill Sexauer	(612) 296-7218
Ohio Columbus Ohio EPA 361 East Broad Street Columbus, Oh 43216	Ohio EPA	Matt Timm	(614) 466-8945
Wisconsin, Madison Wisconsin Dept. of Natural Resources P.O. Box 7921 Madison, Wi. 53707	Wisconsin DNR	Tom Kroehn	(608) 267-7656
	Region VI		
Arkansas, Camden Southern Arkansas University Tech 100 Carr Road P.O. Box 3048 East Camden, AK 71701	Arkansas Environmental Academy	Richard VanPelt	(501) 574-4550

Grantee	Operations Unit	Contact	Phone
New Mexico, LasCruces Dona Ana County Occupational Education Branch, New Mexico State University P.O. Box 3 DA LasCruces, NM 88003	Water Utilities Technology Program	Eugene E. Nelms	(505) 646-2730
Oklahoma, Midwest City Rose State College 6420 Southeast 15th St. Midwest City, OK 73110	Water Utilities Training Center	Dr. Wm R. Roach	(405) 733-7364
Louisiana, Baton Rouge Louisiana Department of Environmental Quality P.O. Box 44006 Baton Rouge, LA 70804	Louisiana DEQ	Peter Romanowsky	(504) 342-6363
Texas, Austin Tx Dept. of Water Resources P.O. Box 13087 Capitol Station Austin, Tx 78711	Wastewater and Water Use Section	George Green	(512) 475-5633
	Region VII		
Iowa, Cedar Rapids Wastewater Treatment Plant Operator Training Center Kirkwood Community College P.O. Box 2068 Cedar Rapids, IA 52406	Waste & Wastewater Technology Center Envir. Occupations Education Dept.	Doug Feil	(319) 393-5677

Grantee	Operations Unit	Contact	Phone
Kansas, Topeka State Technical Training Kansas State Dept. of Health & Environment Topeka, KS 66620	Fort Scott Community College Salina Community Dodge City Community College Mobile Facility	Karl Mueldener	(913) 862-9360
Missouri, Neosho Missouri Water and Wastewater Operator Training Facility Crowder Community College Neosho, MO 64850	Crowder Community College	Richard Thexton Don Wall	(417) 451-3583 451-1250
Nebraska, Lincoln Nebraska Dept. of Env. Control P.O. Box 94877 State House Station Lincoln, NB 68509	Nebraska D.E.C.	Kenneth Hassler	(402) 471-2186
Region VIII			
Colorado, Denver Community College of Denver 1600 Downing Street Denver, CO 80218	Community College of Denver - Red Rock	Tom Feeley	(303) 988-6160 ext. 334
North Dakota, Bismarck North Dakota State Dept. of Health Div. of Water Supply and Pollution Control 1200 Missouri Ave. Bismarck, ND 58501	North Dakota State Dept. of Health	Ralph Riedinger	(701) 224-2354
Montana, Havre Northern Montana Coll. Science Department Havre, Montana 59501	Northern Montana College	Martha Ann Dow	(406) 265-7821 ext. 3285

Grantee	Operations Unit	Contact	Phone
South Dakota, Pierre South Dakota Department of Water and Natural Resource Management Joe Foss Bldg. Pierre, S.D. 57501	South Dakota D.W. and N.R.M.	Bill Aisenberry	(605) 773-3296
Utah, Provo Utah Technical College 1395 N. 150 East P.O. Box 1609 Provo, Utah 84603	Utah Wastewater Operator Training Facility	Debra Horton	(801) 226-5000
Wyoming, Casper Casper College 125 College Drive Casper, Wyoming 82601	Casper College State Wastewater Training Center	Gale Zimmerman Bill Mixer	(307) 268-2542 268-2670
	Region IX		
Arizona, Phoenix Arizona Department of Health Services Bureau of Water Quality Control 1740 West Adams Street Phoenix, Arizona 85007	Arizona DHS	Dr. Ronald Miller	(602) 255-1252
California, Sacramento California State CSWRCB P.O. Box 100 901 P Street Sacramento, CA 95801	CSWRCB Water Quality Institute 810 West Vallecitos Suite A San Marcos, Ca. 92069	Charles V. Weir	(619) 744-4150
Hawaii, Honolulu Hawaii State Dept. of Health Env. Protection and Health Services Div. P.O. Box 3378 Honolulu, HI 96801	Hawaii State Dept. of Health	Robert Rhein	(808) 548-6455

Grantee	Operations Unit	Contact	Phone
	Region X		
Washington, Olympia Washington Dept. of Ecology Mail Stop PV-11 Olympia, Washington 98504	Washington D of E & Green River Comm. College Auburn, Wa. 98602	Myron Saikewicz	(206) 459-6088
Idaho, Boise Boise State University School of Vocational Education 1910 University Drive Boise, Idaho 83725	Wastewater Training Center 2221 N.W. 8th Street Meridian, Id. 83642	Veronica Fitz	(208) 888-1740
Idaho, Boise Idaho Dept. of Health and Welfare 450 W. State Street Boise, Idaho 83720	Division of Environment	Carla Levinski	(208) 334-2251
Oregon,Albany Linn Benton Comm. Coll. Science/Technology Div. 6500 Southwest Pacific Blvd. Albany, Oregon 93721	Linn Benton CC.	Thomas Gonzalez	(503) 928-2361
Alaska, Juneau Dept. of Environmental Conservation Pouch "O" Juneau, Alaska 99811	FC&O Operator Training & Certification	Judy Urquart	(907) 465-2673

STATUS OF STATE TRAINING ACTIVITIES

STATE	ORGANIZATION	NUMBER OF OPERATORS	NUMBER CERTIFIED	NUMBER TRAINED ANNUALLY	STATE TRAINING ACTIVITIES (EXPRESSED AS %)					SOURCES OF REVENUE (FY 1984) EXPRESSED AS %			TOTAL 1984 BUDGET ($1000)	STAFFING	
					CERTIFICATION	UPGRADE	TECHNICAL ASSIST	CONST. GRANTS MGMT	NPDES	LOCAL	STATE	FEDERAL		FULL TIME	PART TIME
Connecticut	Dept. of Environmental Protection Local Assistance and Program Coordination Section	1120	530	160	5	15	70	5	5	N/A	N/A	N/A	115	0	2
New Hampshire	Dept. of Environmental Protection (Separate Divisions) & 109(b)	320	300	300	-	-	-	-	-	0	71	29	210	1	3
Vermont	Dept. of Water Resources Div. of Environmental Engineering	255	255	70	15	10	65	-	10	0	100	0	76	1	0
New Jersey	Dept. of Environmental Protection (Separate Divisions) & 109(b)	-	1645	145	75	10	15	-	-	-	-	-	125	1	2
New York	Dept. of Environmental Conservation	5600	2800	400	-	25	75	-	-	0	86	14	800	15	60
Pennsylvania	Dept. of Community Affairs	-	7450	369	-	-	100	-	-	86	14	0	79	0	100
West Virginia	Dept. of Health and Dept. of Education 109(b)	825	490	500	-	-	-	-	-	N/A	N/A	N/A	67	0	8
Florida	Dept. of Environmental Regulations & TREEO Center 109(b)	-	5860	-	-	-	-	-	-	-	-	-	-	-	-
Kentucky	Bureau of Environmental Protection, Division of Water	5000	4500	1000	21	21	68	-	-	-	-	-	NA	-	-
Mississippi	Dept. of Environmental Protection, Field Services Division	1100	674	350	8	35	50	2	5	-	-	-	162	-	-

ATTACHMENT F (Page 1)

STATUS OF STATE TRAINING ACTIVITIES (Continued)

Attachment F (Page 2)

STATE	ORGANIZATION	NUMBER OF OPERATORS	NUMBER CERTIFIED	NUMBER TRAINED ANNUALLY	STATE TRAINING ACTIVITIES (EXPRESSED AS %)					SOURCES OF REVENUE (FY 1984) EXPRESSED AS %			TOTAL 1984 BUDGET	STAFFING	
					CERTIFICATION	UPGRADE	TECHNICAL ASSIST	CONST. GRANTS MGMT	NPDES	LOCAL	STATE	FEDERAL		FULL TIME	PART TIME
North Carolina	Div. of Environmental Mgmt, Operations Branch	-	4700	1000	10	60	25	-	-	-	-	N/A	284	11	34
South Carolina	Dept. of Environmental Protection Clemson University 109 (b)	2900	2900	-	19	-	52	8	15	-	-	-	162	1	25
Tennessee	State Training Center	-	2000	666	-	-	-	-	-	0	25	75	NA	-	-
Illinois	Dept. of Environmental Protection & SIU State Center	3330	2416	200	20	52	23	some	5	50	35	15	771	8	53
Minnesota	Minnesota Pollution Control Agency, Technical Review Agency	2400	1430	900	10	30	10	50	-	10	71	19	400	12	81
Wisconsin	Dept. of Natural Resources, Division of Environmental Standards Office of Operation & Maintenance	3400	2400	1600	50	voced	50	elsewhere	-	-	-	-	490	-	-
Arkansas	Dept. of Environmental Conservation	1000	1000	300	30	30	40	-	-	0	35	45	200	3	20
New Mexico	109(b) State Training	-	700	480	-	55	40	-	5	44	19	37	135	2	3
Iowa	109(b) Training Center	5000	4500	1500	-	-	-	-	-	42	50	8	172	5	7
Kansas	Dept. of Health & Environmental and Dept. of Education 109(b)	1200	700	400	100			-	-	12	71	17	380	4	18

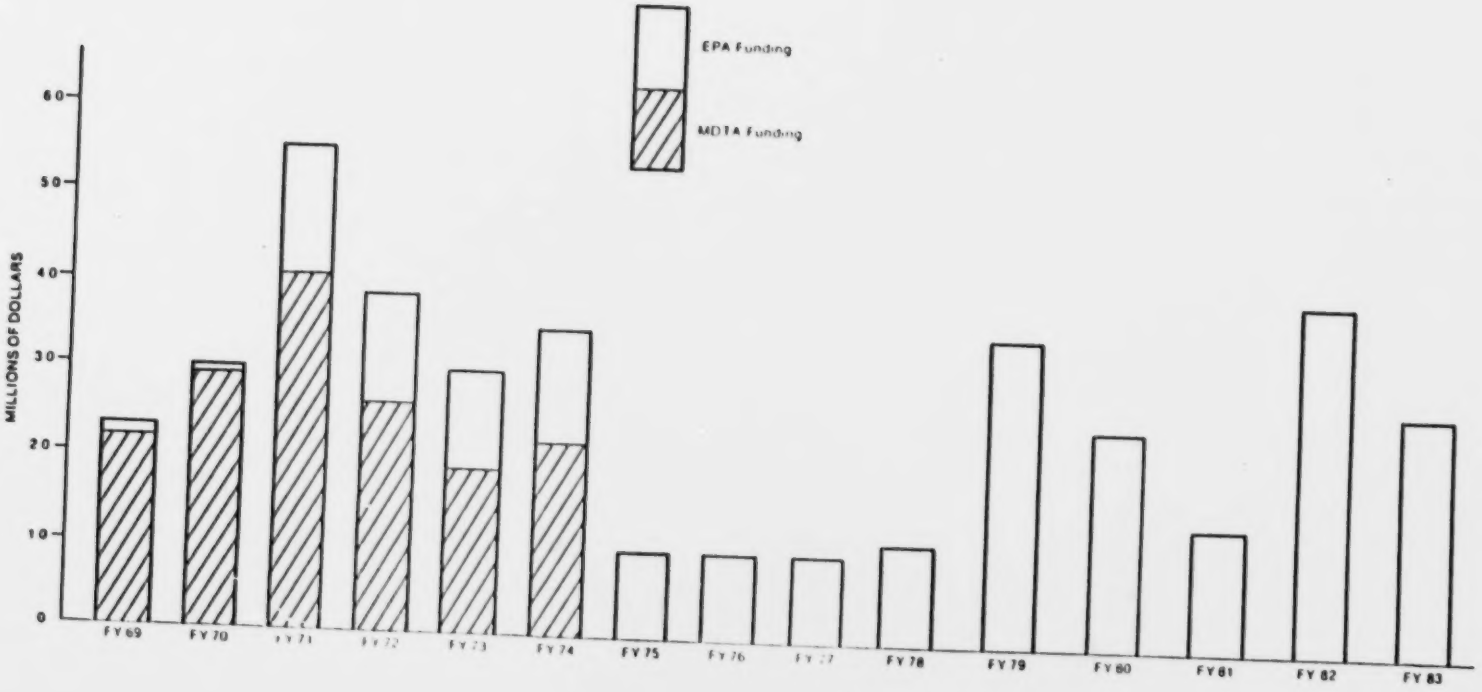
Attachment F (Page 2)

STATUS OF STATE TRAINING ACTIVITIES (Continued)

STATE	ORGANIZATION	NUMBER OF OPERATORS	NUMBER CERTIFIED	NUMBER TRAINED ANNUALLY	STATE TRAINING ACTIVITIES (EXPRESSED AS %) CERTIFICATION	UPGRADE	TECHNICAL ASSIST	CONST. GRANTS MGMT	NPDES	SOURCES OF REVENUE (FY 1984) EXPRESSED AS % LOCAL	STATE	FEDERAL	TOTAL 1984 BUDGET	STAFFING FULL TIME	PART TIME
Missouri	Dept. of Environmental Protection Compliance, Review Section and Regional Office Program Crowder Community Coll.	1000	1200	1000	18	24	25	29	4	0	15	85	43	17	25
Montana	Water Quality Bureau Certification Separate	1500	1100	200	10	10	20	50	10	-	25	75	NA	3	4
North Dakota	Division of Water Supply and Pollution Control	250	325	185	40	40	20	-	-	-	-	-	42	-	42
Wyoming	State 109(b) Training Center	-	-	All	80	10	10	-	-	9	35	10	54	1	3
Arizona	Bureau of Water Quality Control Technical Services Section	-	3000	750	-	-	30	-	-	29	54	17	83.5	1	11
Hawaii	Dept. of Health Environmental Protection and Health Services Division Construction Grants Div.	400	339	-	-	30	60	-	10	-	-	-	83	-	6
Alaska	Dept. of Environmental Conservation	500	300	291	30	50	10	10	-	-	32	68	155	2	40
Idaho	Water Quality Bureau Planning & Standards & State University 109(b)	350	336	400	15	50	15	15	5	6.5	25.3	68.2	150	3	3
Washington	Dept. of Environmental Protection, Office of Operations & Enforcement & Construction Mgmt also Wash. Environmental Training Center	2000+	1400	1253	20	20	30	10	20	13	13	74	346	7	30

Attachment F (Page 3)

Funding Levels For Operator Training
1969 - 1983



ATTACHMENT G